

What is claimed is:

1. A device to move media sheets simultaneously within an image forming device comprising:

5 a first media nip formed by a drive roll and a first roll that is positioned against the drive roll;

a second media nip formed by the drive roll and a second roll that is positioned against the drive roll;

10 a diverter operatively connected to the drive roll and controlled to move to a first position when the drive roll rotates in a first direction to align a first guide edge of the diverter to guide the media sheets into the first media nip, the diverter controlled to move to a second position when the drive roll rotates in a second direction to align a second guide edge of the diverter to guide the media sheets out of the first media nip, and align the first guide edge of the diverter to simultaneously guide the media sheets into the second media nip.

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2. The device of claim 1, wherein the drive roll is mounted to a drive shaft, and the first roll and the second roll are each mounted to a housing of the image forming device.

20 3. The device of claim 1, further comprising a motor attached to the drive roll to rotate the drive roll in the first direction and the second direction.

4. The device of claim 1, wherein the first nip is formed on an upper edge of the drive roll, and the second nip is formed on a lower edge of the drive roll.

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5. The device of claim 1, further comprising a gear train operatively connecting the drive roll to the diverter.

30 6. The device of claim 5, wherein the gear train comprises a first gear mounted to the drive roll, a second gear coupled to the diverter, and a third gear that extends between the first gear and the second gear.

7. The device of claim 1, wherein the first guide edge and the second guide edge intersect to form an acute angle.

5 8. The device of claim 1, wherein the diverter is positioned upstream from the drive roll.

9. The device of claim 1, wherein the diverter is positioned at an intersection of a first media path and a second media path.

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10. A device to move media sheets simultaneously within an image forming apparatus comprising:

a drive roll positioned against a first roll to form a first nip and positioned against a second roll to form a second nip;

15 a diverter operatively connected to the drive roll and having a first guide edge and a second guide edge, the diverter positionable between a first orientation and a second orientation;

the diverter positioned in the first orientation when the drive roll rotates in a first rotational direction to guide along the first guide edge a first media sheet that is driven by the first nip in a first direction;

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the diverter positioned in the second orientation when the drive roll rotates in a second rotational direction to guide along the second guide edge the first media sheet that is driven by the first nip in a second direction, and simultaneously guide a second media sheet along the first guide edge that is being driven by the second nip in the first direction.

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11. The device of claim 10, wherein the diverter is positioned upstream from the drive roll.

12. The device of 10, wherein the first roll and second roll are positioned in contact with the drive roll and rotation of the drive roll rotates both the first roll and the second roll.

5 13. A device to move media sheets simultaneously within an image forming device comprising:

a drive roll positioned against a first roll to form a first nip and positioned against a second roll to form a second nip;

a first gear attached to the drive roll;

10 a second gear in contact with the first gear to rotate opposite from the first gear;

an actuator coupled to a third gear in contact with the second gear to rotate opposite from the second gear;

15 a diverter operatively connected to the actuator and having a first guide edge and a second guide edge, the diverter positionable between a first orientation and a second orientation;

the actuator moving to a first position when the drive roll rotates in a first rotational direction to move the diverter to the first orientation to guide along the first guide edge a first media sheet that is driven by the first nip in a first direction;

20 the actuator moving to a second position when the drive roll rotates in a second rotational direction to move the diverter to the second orientation to guide along the second guide edge the first media sheet that is driven by the first nip in a second direction, and simultaneously guide a second media sheet along the first guide edge that is being driven by the second nip in the first direction.

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14. The device of claim 13, wherein a gear ratio between the first gear and the third gear is set for the diverter to move between the first orientation and the second orientation within a predetermined rotation of the drive roll.

30 15. The device of claim 13, wherein the actuator is connected to the diverter.

16. The device of claim 13, wherein the actuator is in proximity to the diverter and contacts the diverter when moving between the first position and the second position.

5 17. The device of claim 13, further comprising a frictional clutch on the actuator to control an extent of movement in the first position and the second position.

18. A device to move media sheets within an image forming apparatus comprising:

10 a first media nip between a drive roll and a first roll that is positioned against the drive roll;

a second media nip formed by the drive roll and a second roll that is positioned against the drive roll;

means for determining a bendability of the media sheets;

15 a first media path having a first curvature and formed by an inlet path from the image forming apparatus and the first media nip, the first roll positioned on a side of the drive roll distant from the inlet path;

a second media path having a second curvature greater than the first media path, the second media path formed by the inlet path and the second media nip, the second roll positioned on a side of the drive roll adjacent to the inlet path.

19. The device of claim 18, further comprising a diverter operatively connected to the drive roll and controlled to divert the media sheets into the first media path  
25 when receiving a first signal from the determining means, and controlled to divert the media sheets into the second media path when receiving a second signal from the determining means.

20. The device of claim 18, wherein a distance between the inlet path and the  
30 first nip is greater than between the inlet path and the second nip.

21. A method of simultaneously moving two media sheets with a drive roll in an image forming device, the method comprising the steps of:

rotating a drive roll in a first rotational direction;

positioning a diverter in a first orientation and directing a first media sheet

5 moving along a first media path into a first nip formed between the drive roll and a first roll;

reversing the drive roll to a second rotational direction while the first media sheet is within the first nip;

positioning the diverter in a second orientation and directing the first sheet

10 out of the first nip and simultaneously directing a second media sheet into a second nip formed between the drive roll and a second roll; and

rotating the drive roll and simultaneously moving the first sheet in a second direction out of the first nip and moving the second sheet in a first direction out of the second nip.

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22. The method of claim 21, wherein reversing the direction of the drive roll to the second rotational direction causes the diverter to move to the second orientation.

20 23. The method of claim 21, wherein the step of reversing the direction of the drive roll to the second rotational direction occurs after a trailing edge of the first sheet passes beyond the diverter.

24. The method of claim 21, further comprising partially extending the first media  
25 sheet out of the image forming device before reversing the drive roll to the second rotational direction.

25. The method of claim 21, further comprising rotating the drive roll and moving the first sheet in the second direction out of the first nip and into a duplexing path.

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26. The method of claim 21, further comprising moving the second sheet in the first direction out of the second nip and discharging the second sheet from the image forming device.

- 5 27. A method of simultaneously moving two media sheets with a drive roll in an image forming device, the method comprising the steps of:
- rotating a drive roll in a first rotational direction;
  - directing a first media sheet along a first guide edge of a diverter into a first nip formed between the drive roll and a first roll;
  - 10 moving the first sheet through the first nip in a first direction and partially out of the image forming device;
  - reversing the drive roll to a second rotational direction and pulling the first sheet moving in a second direction in the first nip into the image forming device;
  - positioning the diverter in a second orientation and directing the first sheet
  - 15 moving in the second direction out of the first nip and into a duplexing path while simultaneously directing a second media sheet into a second nip formed between the drive roll and a second roll.

- 20 28. The method of claim 27, further comprising rotating the drive roll and moving the first sheet in the second direction out of the first nip and moving the second sheet in the first direction out of the second nip and out of the image forming device.

29. A method of simultaneously moving two media sheets with a drive roll in an image forming device, the method comprising the steps of:

directing a first media sheet moving along a first media path and contacting a leading edge against the drive roll;

5 rotating the drive roll in a first rotational direction and moving the leading edge along the drive roll and into a first nip formed between the drive roll and a first roll;

reversing the drive roll to a second rotational direction while the first media sheet is within the first nip;

10 while the first media sheet is within the first nip, directing a second media sheet moving along the first media path and contacting the second media sheet leading edge against the drive roll and into a second nip formed between the drive roll and a second roll; and

15 rotating the drive roll and simultaneously moving the first media sheet in a first direction out of the first nip and moving the second media sheet in a second direction out of the second nip.

30. A method of moving media sheets within an image forming device, the method comprising the steps of:

20 determining a bendability of a first media sheet;

moving the media sheet along a first media path and through a first nip formed between a drive roll and a first roll with the drive roll rotating in a first direction;

25 determining the bendability of a second media sheet to be higher than the first media sheet; and

moving the media sheet along a second media path and through a second nip formed between the drive roll and a second roll with the drive roll rotating in a second direction, the second media path having a smaller curvature than the first media path.

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